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Instructions for use

SOME APHIDIDÆ FROM COREA.

By

H. OKAMOTO and R. TAKAHASHI.

A few attention has been paid to the aphids fauna of Corea. In 1919 *Eriosoma lanigerum* HAUS., *Phylloxera vastatrix* PLAN. and an aphid on *Prunus persica* were recorded as injurious insects in the report of the Agricultural Experiment Station at Suigen, Corea; and in 1924 *Dilachnus quercihabitans* TAKAH. was described from this peninsula by the junior author in the Philippine Journal of Science.

The collections and colour notes upon which the present study is based were made by the senior author's assistants, Messrs. K. IEIRI and F. NAGAHAMA under his direction during his stay in Corea; the determination of the species as well as the preparation of the paper has been carried out by the junior author at Taihoku, Formosa.

In the present paper 48 species are recorded, of which 5 are new to science. These species represent no doubt only a small part of the aphids fauna of Corea and numerous other species will be brought to light as further researches are made throughout this territory. But they are of a particular interest, since the aphids faunas of the adjacent regions, Manchuria, Mongolia and Siberia have been scarcely studied.

All the type specimens are preserved in the Entomological Laboratory of the Government Research Institute, Taihoku, Formosa.

***Macrosiphum formosanum* TAKAH.**

Aphididae of Formosa, part 1, p. 6 (1921) and part 3, p. 27 (1924); Trans. Nat. Hist. Soc. Formosa, XVI, no. 86, p. 184 (1926).

Host.—*Sonchus oleraceus*, *Lactuca laciniata*.

Hab.—Suigen, Corea.

Many apterous and alate viviparous females were collected by IEIRI and NAGAHAMA in June and August.

***Macrosiphum gobonis* MATS.**

Jl. Coll. Agr. Sapporo, VII, part 6, p. 393 (1917); TAKAHASHI, Aphididae of Formosa, part 1, p. 5 (1921) and part 3, p. 21 (1924).

Host.—*Arctium lappa*, *Cirsium japonicum*, *Cirsium* sp.

Hab.—Suigen, Corea.

Many winged and wingless viviparous females were collected by IEIRI and NAGAHAMA in July and August.

***Macrosiphum rosae* L.**

Syst. Nat. II, 734, 9 (1735); TAKAHASHI, Aphididae of Formosa, part 1, p. 8 (1921); THEOBALD, Aphid. Brit. 1, p. 65 (1926).

Host.—*Rosa* sp.

Hab.—Suigen, Corea.

Some viviparous females, both winged and wingless, were collected by NAGAHAMA in June, 1922.

***Macrosiphum granarium* KIRBY**

Trans. Linn. Soc. IV, 4, p. 238 (1798); TAKAHASHI, Aphididae of Formosa, part 2, p. 14 (1923); THEOBALD, Aphid. Brit. 1 p. 70 (1926).

Host.—*Oryza sativa*.

Hab.—Suigen, Corea.

Many winged and wingless females were collected by NAGAHAMA in July, 1923.

***Macrosiphum pisi* KALT.**

Monog. Pflanz. p. 23 (1843); TAKAHASHI, Aphididae of Formosa, part 1, p. 10 (1921); THEOBALD, Aphid. Brit. 1, p. 127 (1926).

Host.—*Glycine soja*, *Vigna sinensis*.

Hab.—Suigen, Corea.

Some apterous and alate specimens were collected by NAGAHAMA in August, 1921.

***Macrosiphoniella formosartemisiae* TAKAH.**

Aphididae of Formosa, part 1, p. 15 (1921) and part 2, p. 77 (1923).

(Wingless viviparous female). Body with some long stout hairs which are slightly capitate. Antennae with some rather long, slightly capitate setae; the 3rd joint not imbricated, with 4 rather small circular sensoria on the basal half; the 4th striate, lacking sensoria; the relative length of joints about as follows: III—88, IV—65, V—60, VI—130 (30+100). Cornicles very stout, stouter than the cauda, expanded and imbricated on the basal half, reticulated on the distal half, almost as long as the 3rd antennal joint.

Host.—*Artemisia capillaris*.

Hab.—Suigen, Corea.

A few apterous females were collected by IEIRI in July, 1923. These

specimens somewhat differ from the Formosan ones in the stouter cornicles, but seem to be this species. The cornicles of the aphid are usually distinctly reticulated on the distal half.

***Macrosiphoniella astericola* n. sp.** (Pl. IV, Figs. 1-2).

(Wingless viviparous female). Green. Antennae, cornicles and cauda black. Legs black, paler at the bases of femora. Head with some long stout setae. Frontal tubercles large, almost straight on the inner side. Antennae with some long stout setae which are much shorter than the 2nd antennal joint and slightly capitate; the 3rd joint not paler at the base, provided with about 40-50 small circular sensoria except on the basal and apical portions; the 4th somewhat imbricated, lacking sensoria; the relative length of joints about as follows: III—45, IV—28, V—23, VI—56 (8+48). Rostrum nearly reaching the hind coxae. Abdominal segments with some long stout setae arranged in a transverse row on the dorsum. Cornicles large, stout, as stout as the femur, cylindrical, gradually expanded towards the base, not dilated at the base, with no flange at the tip, scarcely imbricated on the basal half, reticulated on the distal two-fifths, almost as long as the cauda, slightly shorter than the 3rd antennal joint. Cauda long, with some 6 pair of lateral bristles. Legs rather stout; tibiae stouter than the 3rd antennal joint, with many long stout setae; hind tarsi a little longer than the basal part of the 6th antennal joint.

Length of body—about 2.6 mm. Antenna—about 2.7 mm.

Host.—*Aster adustus*.

Hab.—Suigen, Corea.

A few apterous forms were collected by IEIRI in August, 1923.

Closely allied to *M. absinthii* L., but differs from it in the longer cornicles, as well as in the colour, and is also apparently distinct from *M. asteris* BOYER.

***Amphorophora lespedezae* ESSIG et KUW.**

Rhopalosiphum lespedezae ESSIG and KUWANA, Proc. Calif. Acad. Sci. 4th ser., VIII, 3, p. 57 (1918).

Host.—*Lespedeza bicolor*.

Hab.—Suigen, Corea.

A winged and some apterous viviparous females were collected by IEIRI on July 25 and August 8, 1913. These specimens differ from the original description in possessing from 1-5 sensoria on the basal part of the 3rd antennal joint of the apterous form.

***Amphorophora indica* VAN DER GOOT**

Rhopalosiphum indicum VAN DER GOOT, Rec. Ind. Mus. XII, part I, p. 1

(1916).

Amphorophora essigwanai MASON, Proc. U. S. Nat. Mus., 67, Art. 20, p. 29 (1925).

Host.—A plant of the *Liliaceae*.

Hab.—Suigen, Corea.

Some apterous viviparous females were collected by NAGAHAMA on September 22, 1921.

In TAKAHASHI's opinion MASON's species is synonymous with *indica* VAN DER GOOT. Other synonyms of the species are recorded in the part 3 of the *Aphididae* of Formosa (p. 107).

***Megoura japonica* MATS.**

Rhopalosiphum viciae KALT. var. *japonicum* MATSUMURA, Trans. Sapporo Nat. Hist. Soc. VII, part 1, p. 10 (1918).

(Wingless viviparous female). The 3rd antennal joint provided with from 50–66 sensoria scattered over the entire length; the 4th with 0–6 sensoria mostly on the basal half; the relative length of joints about as follows: III—70, IV—45, V—40, VI—76 (16+60).

(Winged viviparous female). The 3rd antennal joint provided with about from 57–69 sensoria scattered over the whole length; the 4th with from 11–27 sensoria mostly on the basal half; the 5th with only one sensorium near the tip; the relative length of joints about as follows: III—55, IV—34, V—32, VI—71 (14+57). Forewings slightly clouded along the 1st oblique.

Host.—*Vicia cracca*, *Vicia flava*, *Vicia* sp.

Hab.—Suigen, Corea.

Many winged and wingless viviparous females were collected by IEIRI and NAGAHAMA in July, 1923.

This species is closely allied to *Megoura viciae* KALT., but differs from it in the number of the sensoria on the antenna. *Nectarosiphum moriokae* SHINJI and *Amphorophora lathyro* SHINJI seem to be this species, his descriptions, however, being different from the Korean specimens in the antennal structure.

***Myzus sasakii* MATS.**

Jl. Coll. Agr. Sapporo, VII, part 6, p. 404 (1917); TAKAHASHI, *Aphididae* of Formosa, part 2, p. 81 (1923).

(Stem-mother). Yellowish green. Body almost globular, provided with a few very short capitate hair. Head very small, not smooth on the surface, wanting frontal tubercles. Eyes very small, composed of some (more than 3) facets, without ocular tubercles. Antennae very short, 4-jointed, slender, roughly imbricated, slightly longer than the width of the head between the eyes, with

a few setae; the 1st joint much larger than the 2nd; the 3rd somewhat dilated on the distal portion, with a rather small circular sensorium near the tip; the relative length of joints about as follows: III-37, IV-20 (13+7). Rostrum short, reaching a little beyond the front coxae. Abdomen not reticulated nor imbricated on the surface, scarcely provided with hair. Cornicles not distinct. Cauda conical, small. Legs rather short, with some setae.

Host.—*Prunus serrulata* var. *glabra*, producing galls on the leaf.

Hab.—Suigen, Corea.

Many winged forms and a few apterous stem-mothers were collected by NAGAHAMA on May 25, 1922.

In the winged form, the distal part of the 6th antennal joint is about 3 times as long as the base and the cornicles are furnished with a few short setae.

***Myzus sakurae* MATS.**

Jl. Coll. Agr. Sapporo, VII, part 6, p. 403 (1917); TAKAHASHI, Aphididae of Formosa, part 4, p. 15 (1921).

Host.—*Prunus yedoensis*.

Hab.—Suigen, Corea.

A few apterous females were collected by IEIRI on July 17, 1923. These specimens agree with the Formosan ones.

***Myzus molluginis* KOCH**

Aphis molluginis KOCH, Die Pflanzenl. p. 88, fig. 118 (1857).

Myzus molluginis THEOBALD, Aphid. Brit. 1, p. 301 (1926).

(Wingless viviparous female). Black. Eyes, cornicles and cauda black. Antennae pale. Femora blackish, tibiae and tarsi pale brownish. (In specimens treated with potash, the apex of the 5th antennal joint and the 6th dusky). Body corrugated on the dorsal surface, scarcely provided with hair. Head granular on the surface. Frontal tubercles well developed on the inner side. Antennae shorter than the body, slender, roughly imbricated, lacking hair; the 1st joint much stouter than the 2nd, convex on the inner side; the 2nd as long as the 1st; the 3rd and 4th without sensoria; the 5th with a circular sensorium near the tip; the relative length of joints about as follows: III-34, IV-24, V-21, VI-54 (16+38). Rostrum reaching or not the hind coxae. Cornicles converging, projecting horizontally, reaching beyond the apex of the cauda, somewhat dilated on the base, slightly expanded on the distal half, narrowed at the tip, very slightly curved, roughly imbricated, longer than the 3rd and 4th antennal joints taken together, about 2.5 times as long as the cauda, with a flange at the tip. Cauda stouter than the cornicles, longer than wide, narrowed on the distal portion, rounded at the apex, spinose, with 2 pair of

moderately long lateral hair. Legs rather short, with some setae; hind femora almost as long as the cornicle; tibiae stouter than the antenna; hind tarsi almost as long as the basal part of the last antennal joint.

Length of body—about 1.0 mm. Antenna—about 0.6 mm.

Cornicle—about 0.26 mm.

Host.—*Galium verum*.

Hab.—Suigen, Corea.

Some apterous forms were collected by IEIRI in July, 1923.

***Phorodon humuli* SCHRANK**

Fauna Boic. II, p. 110 (1801); TAKAHASHI, Aphididae of Formosa, part 1, p. 27 (1921); THEOBALD, Aphid. Brit. I, p. 273 (1926).

Host.—*Cannabis sativa*.

Hab.—Suigen, Corea.

Some apterous and winged viviparous females were collected by NAGAHAMA on July 21, 1922.

***Rhopalosiphum pseudobrassicae* DAVIS**

Can. Ent. XLVI, p. 231 (1914); TAKAHASHI, Aphididae of Formosa, part 1, p. 33 (1921).

Host.—*Brassica campestris*.

Hab.—Suigen, Corea.

Many winged and wingless viviparous females were collected by NAGAHAMA in July, 1923.

***Rhopalosiphum nymphaeae* L.**

Syst. Nat. II, p. 734 (1735); TAKAHASHI, Aphididae of Formosa, part 1, p. 33 (1921).

Host.—*Prunus persica*.

Hab.—Suigen, Corea.

Winged and wingless viviparous females were collected by NAGAHAMA in June, 1922.

***Rhopalosiphum lahorensis* DAS**

Stephensonia lahorensis DAS, Mem. Ind. Mus. VI, p. 175 (1918).

Rhopalosiphum lahorensis TAKAHASHI, Aphididae of Formosa, part 1, p. 36 (1921) and part 2, p. 92 (1923).

Host.—*Artemisia vulgaris*.

Hab.—Suigen, Corea.

A winged form was collected by NAGAHAMA in July, 1921. This specimen

is a little larger than the Formosan one, being provided with about 25 sensoria on the 3rd antennal joint.

***Cavariella bicaudata* ESSIG et KUW.**

Proc. Calif. Acad. Sc. 4th series, VIII, 3, p. 64 (1918); TAKAHASHI, Aphididae of Formosa, part 1, p. 36 (1921).

Host.—*Salix koreensis*, *Sium cicutaeifolium* var. *latifolium*.

Many apterous and a few alate viviparous females were collected by IEIRI in July, 1923. In some apterous specimens the antennae are 5-jointed as in *Cavariella neocapreae* TAKAH. (Aphid. Formosa, I, p. 37), but this species can be distinguished from *neocapreae* TAKAH. by the stouter cornicles, the shorter dorsal horn, etc.

***Toxoptera piricola* MATS.**

Jl. Coll. Agr. Sapporo, VII, part 6, p. 414 (1917); ESSIG and KUWANA, Proc. Calif. Acad. Sc. 4th series, VIII, 3, p. 80 (1918).

Host.—*Pyrus serotina*.

Hab.—Suigen, Korea.

Some apterous forms were collected by Y. HASEGAWA in 1923.

Toxoptera punjabipyri DAS (Mem. Ind. Mus. VI, 1918, p. 189) seems to be identical with this species.

***Toxoptera graminum* ROND.**

Nouv. Ann. Sc. Nat. Rend. ser. 3. VI, p. 10 (1852); PHILLIPS and DAVIS, U. S. Dept. Agr. Tech. Ser. no. 25, part 1, p. 8 (1912); DAVIS, U. S. Dept. Agr. Bull. no. 112, p. 5 (1914); VAN DER GOOT, Beitr. Holland. Blattl., p. 249 (1915); DEL GUERCIO, Redia, XII, p. 230 (1917); DAS, Mem. Ind. Mus. VI, 4, p. 196 (1918).

Host.—*Zea mays*.

Hab.—Suigen, Korea.

A few apterous females were collected by IEIRI in July, 1923. Mr. S. KUWAYAMA collected some wingless viviparous females in July, 1920, at Sapporo, Hokkaido, from where the species is hitherto unrecorded.

***Aphis medicaginis* KOCH**

Pflanz. p. 94 (1857); TAKAHASHI, Aphididae of Formosa, part 1, p. 46 (1921).

Host.—*Robinia pseudacasia*.

Hab.—Suigen, Korea.

Numerous winged and wingless viviparous females were collected by NAGA-

HAMA in July, 1921.

***Aphis gossypii* GLOV.**

Rept. Dept. Agr. U. S. A., p. 36 (1876); TAKAHASHI, Aphididae of Formosa, part 1, p. 45 (1921), part 2, p. 97 (1923) and part 4, p. 28 (1925); Philippine Jl. Sc. XXI, p. 421 (1922) and XXIV, p. 712 (1924); Deli Expt. St. Sumatra, Rept, Rept. no. 24, p. 4 (1925).

Host.—*Lysimachia clethroides*, *Cucurbita moschata*, *Cucumis sativus*, *Citrullus vulgaris*, *Forsythia viridissima*, *Pourthiaca villosa* var. *zollingeri*, *Gossypium herbaceum*, *Hibiscus syriacus*, *Glycine soja*.

Hab.—Suigen, Corea.

Many females, both winged and wingless, were collected by NAGAHAMA and IEIRI in May, June, July and August.

***Aphis pirifoliae* SHINJI**

Dobutsugaku Zasshi (Zool. Mag. Tokyo). XXXIV, no. 407, p. 798 (1922).

(Wingless viviparous females). Greenish yellow. Antennae dusky on the distal half. Cornicles and cauda blackish brown. Head with a few moderately long hair. Frontal tubercles absent. Antennae shorter than the body, imbricated, with a few rather short setae; the 3rd joint without sensoria; the relative length of joints about as follows: III—36, IV—25, V—20, VI—60 (19+41). Rostrum reaching the hind coxae. Prothorax and the 7th abdominal segment with a small lateral tubercle. Abdomen reticulated and scarcely provided with hair on the dorsum. Cornicles short, almost as long as or slightly longer than the cauda, cylindrical, gradually expanded towards the base, imbricated except on the distal portion, as long as or a little longer than the 3rd antennal joint. Cauda rather large, stout, slightly constricted near the base, rounded at the apex, with 4 or 5 pair of very long lateral bristles. Tibiae provided with some very long bristles, hind tibiae shorter than the antenna; hind tarsi almost as long as the 4th antennal joint.

Length of body—about 1.25 mm.

(Winged viviparous female). Yellowish green. Thorax, cornicles and cauda blackish brown. Antennae imbricated, scarcely provided with hair; the 3rd joint with 4–6 large circular sensoria arranged in a single row along the whole length except on the basal portion; the 4th with 0–1 sensorium; the relative length of joints about as follows: III—34, IV—26, V—24, VI—66 (19+47). Wings normal. Cornicles and cauda almost as in the apterous form, but smaller.

Length of body—about 1.25 mm.

Host.—*Pyrus communis*, *Malus* sp.

Hab.—Suigen, Kanko, Genzan.

Some apterous and winged viviparous females were collected by NAGAHAMA in July, 1921. Closely allied to *Aphis pomi* DE GEER, differing, however, from it in the shorter cornicles. This identification is not sure, since SHINJI's description is very brief.

***Aphis nerii* BOYER**

Ann. Soc. Ent. France, X, p. 167 (1841); TAKAHASHI, Aphididae of Formosa, part 2, p. 38 (1923).

Host.—*Metaplexis japonica*.

Hab.—Suigen, Korea.

Winged and wingless viviparous females were collected by NAGAHAMA in August, 1923.

***Aphis maidis* FITCH**

Insects N. Y. I, p. 318 (1855); TAKAHASHI, Aphididae of Formosa, part 1, p. 57 (1921).

Host.—*Eragrostis pilosa*, *Hordeum vulgare*, *Zea mays*.

Hab.—Suigen, Korea.

Many viviparous females, both winged and wingless, were collected by IEIRI and NAGAHAMA in May, July and August, 1923.

***Aphis odinae* VAN DER GOOT**

Longiunguis odinae VAN DER GOOT, Contrib. Faun. Ind. Neerl. I, 3, p. 113 (1917).

Arimakia araliae MATSUMURA, Jl. Coll. Agr. Sapporo, VII, part 6, p. 406 (1917).

Arimakia taranbonis MATSUMURA, Jl. Coll. Agr. Sapporo, VII, part 6, p. 407 (1917) and Trans. Nat. Hist. Soc. Sapporo, VII, part 1, p. 17 (1918).

Aphis somei ESSIG and KUWANA, Proc. Calif. Acad. Sc. 4th ser., VIII, 3, p. 75 (1918); TAKAHASHI, Aphididae of Formosa, part 1, p. 58 (1921) and part 2, p. 110 (1923).

Aphis ficicola TAKAHASHI, Aphididae of Formosa, part 1, p. 57 (1921) and part 2, p. 110 (1923).

Aphis odinae TAKAHASHI, Philippine Jl. Sc. XXIV, p. 712 (1924).

Host.—*Rhus javanica*, *Juglans sieboldiana*.

Hab.—Suigen, Korea.

Many winged and wingless viviparous females were collected by IEIRI and NAGAHAMA in May and July. The cornicles of this aphid are sometimes provided with a few bristles. The cauda figured by ESSIG seems to be nymphal.

Anuraphis piricola new name.

Sappaphis piri MATSUMURA, Trans. Sapporo Nat. Hist. Soc. VII, part 1, p. 18 (1918).

Anuraphis piri TAKAHASHI, Trans. Nat. Hist. Soc. Formosa, XIV, p. 56 (1924).

Host.—*Pyrus serotina*.

Hab.—Suigen, Corea.

Preoccupied by *Anuraphis pyri* KOCH and a new name is given.

Many alate and a few apterous viviparous females were collected by NAGAHAMA in May, 1922. This species is different from *A. pyri* KOCH in the antennal structure, as well as in the colour.

Pergandeidia thalictri MATS.

Yezosiphum thalictri MATSUMURA, Trans. Sapporo Nat. Hist. Soc., VII, part 1, p. 7 (1918).

Aphis thalictri ESSIG and KUWANA, Proc. Calif. Acad. Sc. 4th ser., VIII, 3, p. 78 (1918).

Pergandeidia thalictri TAKAHASHI, Aphididae of Formosa, part 3, p. 107 (1924).

Host.—*Thalictrum minus* var. *elatum*.

Hab.—Suigen, Corea.

A few apterous females were collected by IEIRI in August, 1923.

Pergandeidia siphonella ESSIG et KUW.

Aphis siphonella ESSIG and KUWANA, Proc. Calif. Acad. Sc. 4th ser., VIII, 3, p. 73 (1918).

Host.—*Pyrus serotina*.

Hab.—Suigen, Corea.

A few apterous females were collected by NAGAHAMA in July, 1921.

This aphid resembles *Brachysiphoniella graminis* TAKAH., but is apparently distinct from it.

Brachycolus heraclei TAKAH.

Aphididae of Formosa, part 1, p. 60 (1921), part 2, p. 112 (1923) and part 3, p. 50 (1924).

Host.—*Cryptotaenia japonica*.

Hab.—Suigen, Corea.

A few apterous viviparous females were collected by IEIRI in August, 1923.

***Cryptosiphum artemisiae* BUCKTON**

Monog. Br. Aphid. II, p. 145 (1877); TAKAHASHI, Aphididae of Formosa, part 2, p. 43 (1923) and part 3, p. 53 (1924).

Host.—*Artemisia vulgaris* var. *indica*, producing galls.

Hab.—Suigen, Korea.

Many wingless and winged viviparous females were collected by NAGAHAMA in July, 1923. These specimens agree with the Formosan ones on *Artemisia vulgaris*.

***Hyalopterus arundinis* FAB.**

Ent. Syst. IV, p. 212 (1794); TAKAHASHI, Aphididae of Formosa, part 1, p. 40 (1921).

Host.—*Phragmites communis*, *Prunus persica*.

Hab.—Suigen, Korea.

Winged and wingless viviparous females were collected by NAGAHAMA and IEIRI in July, 1923.

***Cervaphis quercus* TAKAH.**

Dobutsugaku Zasshi (Zool. Mag. Tokyo), XXX, p. 458 (1918); Aphididae of Formosa, part 1, p. 69 (1921) and part 3, p. 108 (1924).

Host.—*Quercus acutissima*, *Castanea pubinervis*.

Hab.—Suigen, Korea.

Many apterous and a few alate viviparous females were collected by IEIRI and NAGAHAMA in July, 1921.

***Greenidea kuwanai* PERGANDE**

Ent. News, p. 209 (1906); TAKAHASHI, Aphididae of Formosa, part 4, p. 30 (1925).

Host.—*Quercus acutissima*, *Castanea* sp.

Hab.—Suigen, Korea.

Some apterous and winged viviparous females were collected by NAGAHAMA in June, 1922. The winged forms are provided with 8-14 sensoria arranged in a row on the basal two-thirds of the 3rd antennal joint.

***Melanoxantherium coreanum* n. sp. (Pl. IV, Figs. 8-11)**

(Wingless viviparous female). Dark yellowish green, covered with white secretions. Eyes black. Antennae blackish, pale brown on the basal 3 joints. Cornicles yellowish brown. Cauda dark yellowish green. Legs pale brown, dusky on the distal halves of tibiae, and tarsi. Body provided with some long bristles. Head wide, not divided, with about 6 or 7 pair of long bristles,

which are shorter than the 2nd antennal joint, on the dorsum. Frontal tubercles absent. Eyes rather small, but protruding. Antennae imbricated, with many bristles that are almost as long as those on the head; the 3rd joint with 11-14 rather small circular sensoria arranged almost in a row along the whole length except on the basal and distal portions; the 4th without sensoria; the relative length of joints about as follows: III—44, IV—21, V—26, VI—29 (13+16). Rostrum reaching the hind coxae. Thorax without lateral tubercles. Cornicles very small, a little more than twice as long as wide, somewhat swollen, narrowed at the base, not imbricated, with no flange at the tip, much shorter than the hind tarsi. Cauda conical, wider than long, with the apex rounded, slightly longer than the cornicle, with many moderately long hairs on the distal part. Legs long, with many long rather fine bristles; tibiae stouter than the 3rd antennal joint; hind tarsi long, almost as long as the 4th antennal joint; the 2nd tarsal joint about 5 times as long as the 1st.

Length of body—about 3.5 mm. Antenna—about 2.4 mm.

Hind tibia—about 2.0 mm.

(Winged viviparous female). Dark yellowish green, covered with white secretions. Eyes black. Antennae dusky, pale brown on the basal 3 joints. Thorax dark yellowish green. Cornicles yellowish brown. Cauda greenish yellow. Wings hyaline, slightly clouded along the obliques in the mounted specimens, veins grey. Legs dusky, pale brown on the basal halves of femora. Body provided with some long bristles. Head not divided, on the dorsum provided with about 6 pair of long bristles which are as long as the 2nd antennal joint. Frontal tubercles absent. Eyes rather small, protruding. Antennae imbricated, with many long bristles which are almost as long as those on the head; the 3rd joint furnished with 17-20 small circular sensoria arranged almost in a single row along the whole length except on the basal portion; the 4th lacking sensoria; the relative length of joints about as follows: III—48, IV—25, V—29, VI—30 (14+16). Rostrum reaching the middle coxae. Cornicles and cauda almost as in the apterous form. Wings rather narrow; the 1st oblique on the front wing almost straight, the 2nd somewhat curved on the distal part, the 3rd twice forked, the upper branch extending to the apex of the wing, stigmatic vein somewhat curved; hind wings with 2 almost parallel obliques; hooklets 4. Legs long, provided with many very long fine hairs; tibiae slender, but stouter than the 3rd antennal joint; hind tarsi slightly shorter than the 4th antennal joint, the 2nd tarsal joint about 5 times as long as the 1st.

Length of body—about 3.3 mm. Antenna—about 2.5 mm.

Fore wing—about 4.2 mm. Hind tibia—about 2.1 mm.

Host.—*Salix* sp., attacking the branch and stem.

Hab.—Suigen, Corea.

Some viviparous females, both winged and wingless, were collected by NAGAHAMA in May, 1922. This species seems to be allied to *M. salijaponica* SHINJI, but differs from the description in some characters.

Chaitophorus coreanus n. sp. (Pl. IV, Figs. 6-7)

(Wingless viviparous female). Greenish yellow. Head brown. Eyes reddish brown. Antennae black except on the 3rd joint. Abdomen blackish brown on the dorsum except the middle part and the sides which are greenish yellow. Cornicles blackish brown, somewhat greenish yellow on the tip. Cauda greenish yellow. Body with numerous long stout hairs, most of which are branched at the tip. Hairs on the head variable in length, the longer ones almost as long as or slightly longer than the 1st antennal joint. Frontal tubercles very short. Eyes outstanding, with ocular tubercles. Antennae with some long bristles which are not branched at the tip, shorter than those on the head; the 3rd joint imbricated, lacking sensoria; the 5th dilated at the apex, with a medium-sized sensorium; the relative length of joints about as follows: III—23, IV—14, V—12, VI—22 (7+15). Rostrum reaching a little beyond the hind coxae. Abdomen almost circular in outline when seen from above, with longer hairs on the hind portion. Cornicles as long as wide, expanded on the base, reticulated. Cauda constricted, with the distal part globular, with some very long bristles. Anal plate not bilobed nor sinuated. Legs with many long fine hairs which are not branched at the tip, shorter than those on the posterior part of abdomen; tibiae stouter than the antenna; hind tibiae almost as long as or slightly longer than the 3rd, 4th and 5th antennal joints taken together, with 4-10 small circular sensoria scattered; hind tarsi longer than the basal part of the 6th antennal joint.

Length of body—about 2.0 mm. Antenna—about 1.5 mm.

(Winged viviparous female). Greenish yellow. Head black. Eyes reddish brown. Antennae black on the distal 3 joints. Thorax dusky. Abdominal segments with each a broad blackish brown band on the dorsum and a large black patch on the side. Cornicles blackish green. Cauda greenish yellow. Wings hyaline, veins and stigma blackish brown. Body with many very long simple bristles. Hairs on the head mostly longer than the 1st antennal joint. Antennae imbricated, with some long bristles which are shorter than those on the head; the 3rd joint with 19-24 rather small circular sensoria scattered almost over the whole length; the 4th with 1-5 similar ones arranged in a row; the 5th with 0-2 similar ones, the sensorium medium in size; the relative length of joints about as follows: III—30, IV—17, V—14, VI—22 (7+15). Rostrum reaches the hind coxae. Hairs on abdomen as long as or longer than the cauda. Cornicles and cauda subequal in length, almost as in the apterous

form. The 1st and 2nd obliques on the front wing nearly straight, the 3rd twice forked, the upper branch extending to the tip of the wing; stigma ample; stigmatic vein long, moderately curved; hind wings with 2 somewhat divergent obliques; hooklets 4-6. Hind tibiae with 5-12 small circular sensoria on the distal half.

Length of body—about 2.25 mm. Antenna—about 1.6 mm.

Fore wing—about 3.2 mm.

Host.—*Populus tremula* var. *davidiana*.

Hab.—Suigen, Corea.

Some apterous and alate viviparous females were collected by IEIRI and NAGAHAMA in July.

This aphid is closely allied to *Chaitophorus betulinus* VAN DER GOOT, but is distinguishable from it by the reticulated cornicles. This species is peculiar in possessing sensoria on the hind tibiae of the viviparous form, as well as in the branched hairs on the apterous form.

***Myzocallis kuricola* MATS.**

Nippocallis kuricola MATSUMURA, Jl. Coll. Agr. Sapporo, VII, part 6, p. 365 (1917).

Myzocallis kuricola ESSIG and KUWANA, Proc. Calif. Acad. Sc. 4th ser. VIII, 3, p. 92 (1918); TAKAHASHI, Aphididae of Formosa, part 2, p. 121 (1923).

Host.—*Quercus acutissima*, *Castanea pubinervis* var. *dulcis*, *Castanea mollissima*.

Hab.—Suigen, Corea.

Some winged viviparous forms were collected by NAGAHAMA in June, 1922.

***Myzocallis nigra* n. sp. (Pl. IV, Figs. 3-5)**

Myzocallis quercicola TAKAHASHI, Aphididae of Formosa, part 2, pp. 64 and 121 (1923).

The aphid described by TAKAHASHI under the name of *Myzocallis quercicola* MATS. is not true MATSUMURA's species, but is new to science. This species is easily distinguishable from *M. quercicola* MATS. and its allies by the colour.

Host.—*Quercus dentata*.

Hab.—Suigen, Corea; Tokyo, Japan.

Some winged viviparous females were collected by NAGAHAMA in May, 1923. The basal two antennal joints of the winged form are black, all the hairs are sometimes not capitate, all the tarsi are not black and the stigma on the front wing is black.

***Dilachnus piniformosanus* TAKAH.**

Dilachnus species, TAKAHASHI, Aphididae of Formosa, part 1, p. 82 (1921).

Dilachnus piniformosanus TAKAHASHI, Aphididae of Formosa, part 2, p. 47 (1923).

Host.—*Pinus* sp.

Hab.—Suigen, Corea.

A few apterous forms collected in May, 1922, seem to be this species.

***Dilachnus pinidensiflorae* ESSIG et KUW.**

Lachnus pinidensiflorae ESSIG and KUWANA, Proc. Calif. Acad. Sc. 4th ser. VIII, 3, p. 99 (1918).

Dilachnus pinidensiflorae TAKAHASHI, Aphididae of Formosa, part 1, p. 81 (1921).

Host.—*Pinus densiflora*.

Hab.—Suigen, Corea.

Many winged and wingless viviparous females were collected by IEIRI and NAGAHAMA in May and July.

***Dilachnus thujafolia* THEOB.**

Lachniella thujafolia THEOBALD, Bull. Ent. Res. IV, p. 335 (1924).

Lachnus thujafolia TAKAHASHI, Aphididae of Formosa, part 1, p. 81 (1921) and part 3, p. 71 (1924).

Host.—*Thuja orientalis*.

Hab.—Suigen, Corea.

Some apterous and alate viviparous females were collected by NAGAHAMA and IEIRI in July, 1921 and 1923.

***Dilachnus quercihabitans* TAKAH.**

Philippine Jl. Sc. XXIV, no. 6, p. 716 (1924).

(Wingless viviparous females). Black. Antennae, eyes, cornicles, cauda and legs black. Body provided with many rather long stout setae. Head divided, with many stout hairs which are shorter than the 2nd antennal joint. Eyes with small ocular tubercles. Antennae almost as long as the front tibia, provided with many very stout setae which are somewhat shorter than those on the head; the 3rd joint provided with 8–12 very or rather small circular sensoria arranged in a single row except on the basal part; the 4th with 4–8 similar ones, of which the apical one is sometimes much larger; the 5th with a very large sensorium at the tip; the relative length of joints about as follows: III—72, IV—30, V—24, VI—16 (10+6). Rostrum reaches beyond the hind coxae. Cornicles situated on large cones which are furnished with many longer

hairs. Cauda broad, nearly straight on the posterior margin, with many very long hairs. Legs very long, with many moderately long very stout setae; tibiae stouter than the antenna; hind tarsi almost as long as the 5th antennal joint, the 2nd tarsal joint about twice as long as the 1st.

Length of body—about 5.3 mm. Antenna—about 2.9 mm.

Hind tibia—about 5.5 mm.

Host.—*Quercus acutissima*, attacking the young twig; *Abies holophylla*.

Hab.—Suigen, Corea.

The wingless form is hitherto unknown. Only some apterous forms were collected by IEIRI on the *Quercus* in July, 1923, from which the above description was made. Some winged viviparous females were collected by NAGAHAMA on *Abies holophylla* in May, 1922, at Suigen which agree exactly with the type specimens of this species taken on *Quercus* at the same locality.

***Pterochlorus tropicalis* VAN DER GOOT**

Rec. Ind. Mus. XII, part 1, p. 3 (1916); ESSIG and KUWANA, Proc. Calif. Acad. Sc. 4th ser. VIII, 3, p. 101 (1918); TAKAHASHI, Aphididae of Formosa, part 2, p. 136 (1923) and Trans. Nat. Hist. Soc. Formosa, XIV, p. 56 (1924).

Pterochlorus japonicus MATSUMURA, Jl. Coll. Agr. Sapporo, VII, part 6, p. 378 (1917).

Host.—*Quercus acutissima*, *Castanea* sp.

Hab.—Suigen, Corea,

Many viviparous females, both winged and wingless, and males were collected by NAGAHAMA. According to the collector's notes, near Suigen the winged males appear from the beginning of November and the wingless oviparous females may be seen until the middle of December.

***Tuberolachnus viminalis* FONSC.**

Ann. Soc. Ent. France X, p. 184 (1841); TAKAHASHI, Aphididae of Formosa, part 1, p. 82 (1921).

Host.—*Populus maximowiczii*.

Hab.—Suigen, Corea.

Some apterous and alate viviparous females were collected by NAGAHAMA in July, 1922.

***Astegopteryx nekoashi* SASAKI**

Ier Congr. Intern. Ent. Bruxelles, Mem. II, p. 449 (1911); MATSUMURA, Essays for NAWA, p. 50 (1917); TAKAHASHI, Aphididae of Formosa, part 1, p. 146 (1923).

Host.—*Styrax obassia*, producing galls.

Hab.—Kongosan, Korea.

Many winged viviparous females were collected by Dr. T. SHIRAKI in August, 1925. The 3rd antennal joint of the winged form is provided with from 25 to 30 sensoria. In Formosa an aphid of *Astegopteryx* on *Styrax* species produces galls similar to those of *A. nekoashi* SASAKI. This Formosan species has never been determined, since the winged adult has never been collected, but seems to be identical with *nekoashi* SASAKI.

***Prociphilus clerodendri* n. sp.** (Pl. IV, Fig. 12)

(Winged viviparous female). Head, eyes, antennae and mesothorax black. Abdomen yellowish green, with a reddish tinge. Cauda green. Wings hyaline. Legs black, reddish brown on the bases of femora and the basal halves of tibiae. Body covered with cottony secretions. Head rather small, divided, with some moderately long hairs which are much shorter than the 1st antennal joint, on the dorsal side a pair of large almost circular wax-plates which are much larger than the ocellus near the hind margin. Antennae 6-jointed, with some short setae; the 1st joint almost as long as the 2nd; the 3rd provided with 23–32 narrow sensoria which are regularly arranged in a single row along the whole length except on the basal portion, hardly occupying half the circumference of the joint; the 4th with 7–13 similar ones except on the basal portion; the 5th with 6–14 similar ones and an ample sensorium at the tip; the 6th striate, without secondary sensoria, the usual sensorium large; the relative length of the joints about as follows: III—37, IV—17, V—18, VI—21 (17+4). Rostrum nearly reaching the middle coxae. Mesothorax with a pair of large oval wax-plates. Wing veins normal. Cornicles absent. Cauda indistinct. Tibiae almost as stout as or stouter than the 3rd antennal joint, with many long rather fine hairs; hind tibiae a little longer than the antenna; hind tarsi as long as or slightly longer than the 6th antennal joint.

Length of body—about 4.5 mm. Antenna—about 1.8 mm.

Host.—*Clerodendron trichotomum*.

Hab.—Suigen, Korea.

Some winged viviparous females were collected by NAGAHAMA in May, 1922. This species can be distinguished from other species of the genus by the character of the antenna.

***Eriosoma clematicolum* TAKAH.**

Aphididae of Formosa, part 3, p. 99 (1924).

Host.—*Abelicea serrata*, producing galls on the leaf.

Hab.—Suigen, Korea.

Many winged viviparous females were collected by IEIRI in July, 1923.

These specimens are a little smaller than the Formosan ones collected on *Clematis fouriana*, but seem to belong to this species. This aphid may prove to be identical with *Pemphigus clematis* SHINJI (Dobutsugaku Zasshi, Tokyo, XX-XIV, no 402, 1922, p. 553) described from Japan proper.

***Cinacium iaksuiense* KISHIDA**

Dobutsugaku Zasshi (Zool. Mag. Tokyo) XXXVI, p. 473 (1924).

Host.—*Pirus sinensis*, attacking the fruit and twig.

Hab.—Suigen, Corea.

A few apterous females were collected by IEIRI in July, 1923. This species is very injurious to the pear in Corea, as well as in Japan.

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摘 要

朝 鮮 産 蚜 蟲 類

岡 本 半 次 郎

高 橋 良 一

朝鮮の蚜蟲類は從來殆んど調査せられざりしを以て著者等は此が研究を企て次の48種を明にしたり。その中の5は學術上新種なり。

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| 1. <i>Macrosiphum formosanum</i> TAKAH. | チサノヒゲナガアブラムシ |
| 2. <i>M. gobonis</i> MATS. | ゴボウノヒゲナガアブラムシ |
| 3. <i>M. rosae</i> L. | バラノヒゲナガアブラムシ |
| 4. <i>M. granarium</i> KIRBY | ムギノヒゲナガアブラムシ |
| 5. <i>M. pisi</i> KALT. | マメノヒゲナガアブラムシ |
| 6. <i>Macrosiphoniella formosartemisiae</i> TAKAH. | カハラヨモギノアブラムシ |
| 7. <i>M. astericola</i> OKAM. et TAKAH. (n. sp.) | テウセンヨメナノアブラムシ(新稱) |
| 8. <i>Amphorophora lespedezae</i> ESSIG et KUW. | ハギノトックリアブラムシ(新稱) |
| 9. <i>A. indica</i> VAN DER GOOT | ゴンヅイノエダアブラムシ |
| 10. <i>Megoura japonica</i> MATS. | タニツタシトックリアブラムシ |
| 11. <i>Alysius sasakii</i> MATS. | サクラフシアブラムシ |
| 12. <i>M. sakurae</i> MATS. | サクラコブアブラムシ |
| 13. <i>M. molluginis</i> KOCH | マツバボタンノアブラムシ(新稱) |
| 14. <i>Phorodon humuli</i> SCHRANK | ホツブイボアブラムシ |

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| 15. <i>Rhopalosiphum pseudobrassicae</i> DAVIS. | ダイコアブラムシモドキ |
| 16. <i>R. nymphaeae</i> L. | クワイノアブラムシ |
| 17. <i>R. lahorensis</i> DAS | ヨモギコアブラムシ |
| 18. <i>Cavariella bicaudata</i> ESSIG et KUW. | ヤナギヲナガアブラムシ |
| 19. <i>Toxoptera piricola</i> MATS. | ナシアブラムシ |
| 20. <i>T. graminum</i> ROND. | ムギノミトリアブラムシ(新稱) |
| 21. <i>Aphis gossypii</i> GLOV. | ワタノアブラムシ |
| 22. <i>A. medicaginis</i> KOCH | マメノアブラムシ |
| 23. <i>A. nerii</i> BOYER | キヲタノアブラムシ |
| 24. <i>A. pirifoliae</i> SHINJI | ナシノコアブラムシ |
| 25. <i>A. odinae</i> VAN DER GOOT | ヌルデノアブラムシ |
| 26. <i>A. maidis</i> FITCH | トウモロコシノアブラムシ |
| 27. <i>Anuraphis piricola</i> OKAM. et TAKAH. (n. name) | ナシマルアブラムシ |
| 28. <i>Pergandeidia thalictri</i> MATS. | カラマツサウアブラムシ |
| 29. <i>P. siphonella</i> ESSIG et KUW. | ナシノヒメアブラムシ(新稱) |
| 30. <i>Brachycolus heraclei</i> TAKAH. | ハナウドノアブラムシ |
| 31. <i>Cryptosiphum artemisiae</i> BUCKT. | ヨモギフシアブラムシ(新稱) |
| 32. <i>Hyalopterus arundinis</i> FAB. | モモコフキアブラムシ |
| 33. <i>Greenidea kuwanai</i> PERGANDE | ケブカアブラムシ |
| 34. <i>Cervaphis quercus</i> TAKAH. | クヌギエダアブラムシ |
| 35. <i>Melanoxantherium coreanum</i> OKAM. et TAKAH. (n. sp.) | テウセンツボアブラムシ(新稱) |
| 36. <i>Chaitophorus coreanus</i> OKAM. et TAKAH. (n. sp.) | テウセンケアブラムシ(新稱) |
| 37. <i>Myzocallis kuricola</i> MATS. | クリブチアブラムシ |
| 38. <i>M. nigra</i> OKAM. et TAKAH. (n. sp.) | クロブチアブラムシ(新稱) |
| 39. <i>Dilachnus pinidensisiflorae</i> ESSIG et KUW. | マツノエダアブラムシ |
| 40. <i>D. piniformosanus</i> TAKAH. | タイワンマツノオホアブラムシ(新稱) |
| 41. <i>D. thujafolia</i> THEOB. | コノテガシヲノオホアブラムシ |
| 42. <i>D. - quercihabitan</i> TAKAH. | クヌギオホアブラムシ(新稱) |
| 43. <i>Pterochlorus tropicalis</i> VAN DER GOOT | クリノオホアブラムシ |
| 44. <i>Tuberolachnus viminais</i> FONSC. | ヤナギノオホアブラムシ |
| 45. <i>Asteopteryx nekoashi</i> SASAKI | エゴノネコアシ |
| 46. <i>Preciphius clerodendri</i> OKAM. et TAKAH. (n. sp.) | クサギノソタアブラムシ(新稱) |
| 47. <i>Eriosoma clematicolum</i> TAKAH. | ハンシヨウヅルノアブラムシ(新稱) |
| 48. <i>Cinacium iaksuense</i> KISHIDA | キナコアブラムシ |